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SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT,  
GULF OF CALIFORNIA, 14 JUNE 1975

K. J. Hill, et al

Teledyne Geotech

Prepared for:

Air Force Technical Applications Center

22 January 1976

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ADA 022877

**SPECIAL DATA COLLECTION SYSTEM EVENT REPORT**  
**Gulf of California, 14 June 1975**

**K.J. Hill, M.S. Dawkins, R.R. Baumstark, and M.D. Gillespie**  
**Alexandria Laboratories**

**Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314**

**January 1976**

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**ARPA Order No. 2897**

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|---|-----------------------|--|
| 1. REPORT NUMBER<br>SDCS-ER-75-61   | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER  |
| 4. TITLE (and Subtitle)<br>SPECIAL DATA COLLECTION SYSTEM (SDCS)<br>Gulf of California, 14 June 1975  |                       | 5. TYPE OF REPORT & PERIOD COVERED<br>Technical                          |
|   |                       | 6. PERFORMING ORG. REPORT NUMBER   |
| 7. AUTHOR(s)<br>Hill, K. J., Dawkins, M. S., Baumstark, R. R.,<br>and Gillespie, M. D.  |                       | 8. CONTRACT OR GRANT NUMBER(s)<br>F08605-74-C-0013                       |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>Teleadyne Geotech<br>314 Montgomery Street<br>Alexandria, Virginia 22314   |                       | 10. PROGRAM ELEMENT, PROJECT, TASK<br>AREA & WORK UNIT NUMBERS<br>T/4703 |
| 11. CONTROLLING OFFICE NAME AND ADDRESS<br>Defense Advanced Research Projects Agency<br>Nuclear Monitoring Research Office<br>1400 Wilson Blvd.-Arlington, Virginia |                       | 12. REPORT DATE<br>22 January 1976                                       |
|   |                       | 13. NUMBER OF PAGES<br>18  |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)<br>VELA Seismological Center<br>312 Montgomery Street<br>Alexandria, Virginia 22314     |                       | 15. SECURITY CLASS. (of this report)<br>Unclassified                     |
|   |                       | 15a. DECLASSIFICATION DOWNGRADING<br>SCHEDULE                            |
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| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)   |                       |  |

ACCESSION NO.

DATE

DDC

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SDCS EVENT REPORT NO. 61

→ Gulf of California, 14 June 1975.

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event.

→ Published epicenter information from seismic observations is: *given.*

|        | "P" Arrival | Origin Time | Lat.  | Long.  | $m_b$ | $M_s$ |
|--------|-------------|-------------|-------|--------|-------|-------|
| NORSAR | 02:38:23.0  | 02:26:06    | 24 N  | 109 W  | 5.0   | N/A   |
| LASA   | 02:31:07.5  | 02:25:52    | 22.0N | 108.2W | 5.1   | N/A   |
| PDE    |             | 02:26:01    | 23.3N | 108.0W | 5.1   | N/A   |

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

02:25:59.0    23.4N    107.9W    5.1    5.1

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at WH2YK, CPSO, RK-ON, FN-WV, LASA and NORSAR. High background noise prevented determination of signal arrival at HN-ME. Horizontal SP channels at all SDCS stations were rotated.

Long-period signals were recorded at all SDCS stations, ALPA, LASA and NORSAR. Horizontal LP channels at WH2YK, CPSO, RK-ON, and HN-ME were rotated. Signal clipping on the LP radial channel at FN-WV prevented rotation of the horizontal channels. The arrival of the LQ phase at HN-ME appears on the LP radial channel; no explanation can be made for this occurrence and validity is therefore questionable. It is not certain that the ALPA, LASA and NORSAR long-period vertical beam data are valid and the horizontal channels were not included because of program recovery problems.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

# STATION DESCRIPTION

| SITE<br>CODE | LOCATION                   | SITE COORDINATES<br>DEG MN SECS | ELEVATION<br>METERS | INSTRUMENTATION  |                    |
|--------------|----------------------------|---------------------------------|---------------------|------------------|--------------------|
|              |                            |                                 |                     | SHORT - PERIOD   | LONG - PERIOD      |
| ALPA         | Alaska                     | 65 14 00.0 N<br>147 44 36.0 W   | 626                 | None             | 31300              |
| CPSO         | McMinnville,<br>Tennessee  | 35 35 41.4 N<br>085 34 13.5 W   | 574                 | 6480 V<br>7515 H | SL210 V<br>SL220 H |
| FN-WV        | Franklin,<br>West Virginia | 38 32 58.0 N<br>079 30 47.0 W   | 910                 | KS36000          | KS36000            |
| LASA         | Billings,<br>Montana       | 46 41 19.0 N<br>106 13 20.0 W   | 744                 | HS10             | 7505A V<br>8700C H |
| HN-ME        | Houlton,<br>Maine          | 46 09 43.0 N<br>067 59 09.0 W   | 213                 | 18300            | SL210 V<br>SL220 H |
| NORSAR       | Kjeller,<br>Norway         | 60 49 25.4 N<br>010 49 56.5 E   | 379                 | HS10             | 7505A V<br>8700C H |
| RK-ON        | Red Lake,<br>Ontario       | 50 50 20.0 N<br>093 40 20.0 W   | 366                 | 18300            | SL210 V<br>SL220 H |
| WH2YK        | White Horse,<br>Yukon      | 60 41 41.0 N<br>134 58 02.0 W   | 853                 | 18300            | SL210 V<br>SL220 H |

Note: The orientation of the radial instruments at FN-WV is assumed to be 316° + 5° based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

# HYPOCENTER DETERMINATION

INPUT FOR EVENT 14 JUN 75  
02:25:52.0 21.998N 108.200W 0KM.

| STA.  | ARRIVAL    | RESIDUALS |      | DIST. | AZ.   |
|-------|------------|-----------|------|-------|-------|
|       |            | CAIC      | REST | REST  | REST  |
| CPC   | 02 31 02.5 | -0.4      | 0.1  | 22.8  | 52.9  |
| LAC   | 02 31 07.5 | 0.9       | 0.9  | 23.2  | 2.9   |
| FN-WV | 02 31 55.5 | 0.5       | 0.6  | 28.5  | 51.4  |
| BK-CN | 02 32 02.5 | -0.9      | -1.5 | 29.5  | 18.4  |
| WH2YK | 02 33 48.9 | -0.4      | 0.1  | 41.7  | 340.3 |
| NAO   | 02 38 23.0 | 0.3       | -0.2 | 82.6  | 25.7  |

## 67 HERRIN TRAVEL TIME TABLES

| ORIGIN     | LAT.    | LONG.    | DEPTH (KM) | SDV | IT | STA |
|------------|---------|----------|------------|-----|----|-----|
| 02:26:15.2 | 23.973N | 107.619W | 108. CAIC  | 0.7 | 4  | 6   |
| 02:25:59.0 | 23.431N | 107.864W | 0. REST    | 0.8 | 3  | 6   |

| CALC  |      |   |   | REST  |      |   |   |
|-------|------|---|---|-------|------|---|---|
| 1 - 2 |      |   |   | 1 - 2 |      |   |   |
| 0     | .    | 1 |   | 0     | .    | 1 |   |
| 0     | 0. 2 | 0 |   | 0     | 0. 2 | 0 |   |
| .     | .    | . | . | .     | .    | . | . |
| 0     | 0. 0 | 0 | 0 | 0     | 0. 0 | 0 | 0 |
| 0     | .    | 0 |   | 0     | .    | 0 |   |
| 0     | 0    |   |   | 0     | 0    |   |   |

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.31  
MAJOR 98.8KM. MINOR 38.4KM. AZ= 17 AREA= 11910 SQ.KM. REST

95 PERCENT CONFIDENCE ON DEPTH CHISQUARE WITH DISTANCE VARIANCE = ±232.499



# DATA SUMMARY

INPUT FOR EVENT 14 JUN 75  
02:25:52.0 21.998N 108.200W OKM.

| STA.   | PHASE | ARRIVAL    |  | INST | FER  | A/T   | MAGNITUDE |      | DIR | DIST |
|--------|-------|------------|--|------|------|-------|-----------|------|-----|------|
|        |       | TIME       |  |      |      |       | MB        | MS   |     |      |
| CFC    | EP    | 02 31 02.5 |  | SPZ  | 1.4  | 377.  | 5.56      |      |     | 22.8 |
| CPC    | LQ    | 02 39 10.0 |  | LPT  | 21.0 | 427.  |           |      |     |      |
| CPC    | LR    | 02 40 35.0 |  | LPZ  | 21.0 | 183.  |           | 4.74 |     | 22.8 |
| LAC    | EP    | 02 31 07.5 |  | AE   | 1.0  | 58.   | 4.76      |      |     | 23.2 |
| LAC    | LR    | 02 40 38.0 |  | LPZ  | 18.0 | 421.  |           | 5.11 |     | 23.2 |
| FN-WV  | EP    | 02 31 55.5 |  | SPZ  | 1.4  | 37.   | 4.87      |      |     | 28.5 |
| FN-WV  | LQ    | 02 41 58.0 |  | IPR  | 19.0 | 9999. |           |      |     |      |
| FN-WV  | LR    | 02 44 20.0 |  | LPZ  | 17.0 | 677.  |           | 5.40 |     | 28.5 |
| RK-ON  | EP    | 02 32 02.5 |  | SPZ  | 1.4  | 44.   | 4.94      |      |     | 29.5 |
| RK-CN  | LQ    | 02 42 20.0 |  | LPT  | 20.0 | 1587. |           |      |     |      |
| RK-ON  | LR    | 02 44 30.0 |  | LPZ  | 17.0 | 619.  |           | 5.38 |     | 29.5 |
| HN-ME  | LQ    | 02 47 23.0 |  | LPR  | 21.0 | 577.  |           |      |     |      |
| HN-ME  | LR    | 02 50 24.0 |  | LPZ  | 17.0 | 747.  |           | 5.59 |     | 39.3 |
| WH2YKM | EP    | 02 33 48.9 |  | SPZ  | 0.9  | 8.    | 4.10      |      |     | 41.7 |
| WH2YK  | LQ    | 02 49 06.0 |  | LPT  | 20.0 | 604.  |           |      |     |      |
| WH2YK  | LR    | 02 51 01.0 |  | LPZ  | 21.0 | 9999. |           | 0.0  |     | 41.7 |
| ALFA   | LR    | 02 54 04.0 |  | LPZ  | 21.0 | 60.   |           | 4.59 |     | 49.0 |
| NAC    | EP    | 02 38 23.0 |  | AE   | 1.5  | 55.   | 5.40      |      |     | 82.6 |
| NAC    | LR    | 03 13 55.0 |  | LPZ  | 20.0 | 90.   |           | 4.99 |     | 82.6 |

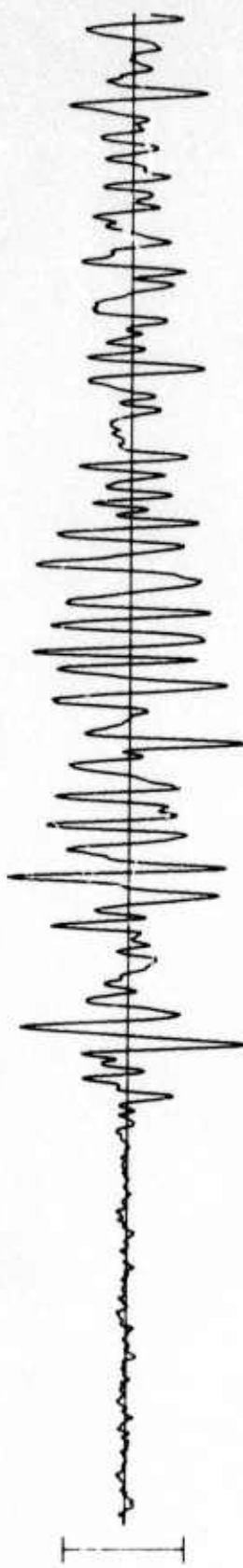
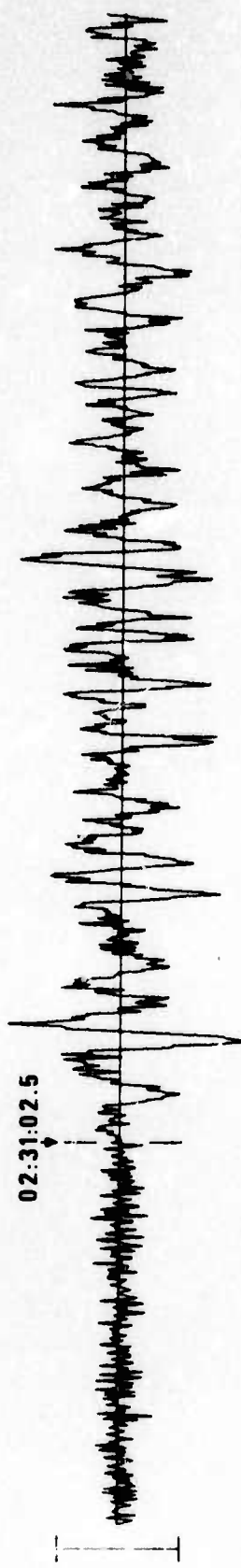
| ORIGIN     | LAT.    | LCNG.    | DEPTH (KM) | MAG  | SDV  | STA | IPMAG | LPSDV | LPSTA |
|------------|---------|----------|------------|------|------|-----|-------|-------|-------|
| 02:26:15.2 | 23.973N | 107.619W | 108. CAIC  | 4.77 | 0.41 | 6   | 5.11  | 0.4   | 7     |
| 02:25:59.0 | 23.431N | 107.864W | 0. REST    | 5.11 | 0.35 | 5   | 5.11  | 0.4   | 7     |

WH2YK NOT USED IN REST RUN SP AVG. MAG.

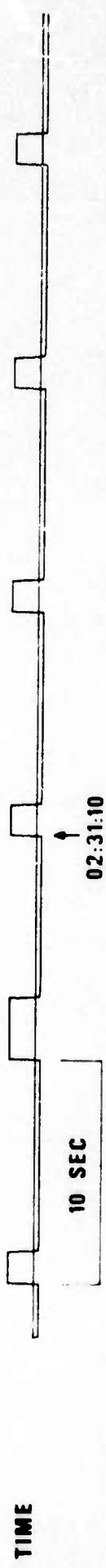
WH2YK NOT USED IN RESTRAINED RUN SP AVERAGE MAGNITUDE  
CALCULATION BECAUSE ITS MAGNITUDE EXCEEDED THE SDV  
PARAMETERS OF THE HYPOCENTER PROGRAM.



CPSO 14 JUN 75



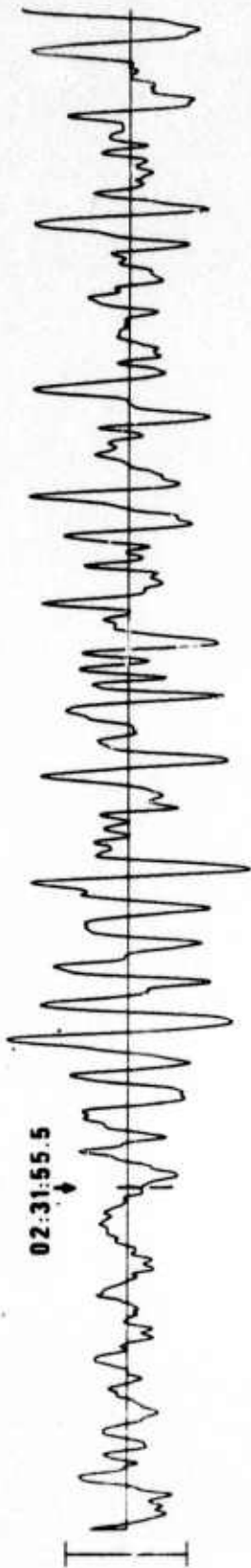
6



FN-WV 14 JUN 75

02:31:55.5

SPZ  
13.86 Mμ

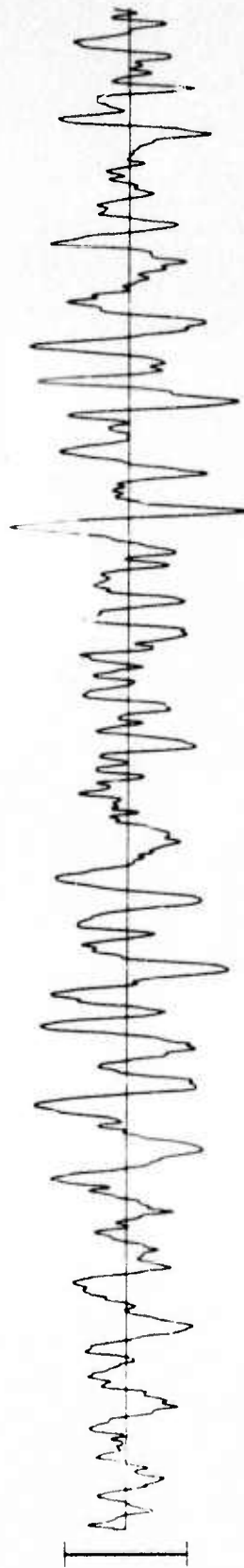


SPR  
9.35 Mμ



SP

SPT  
9.36 Mμ

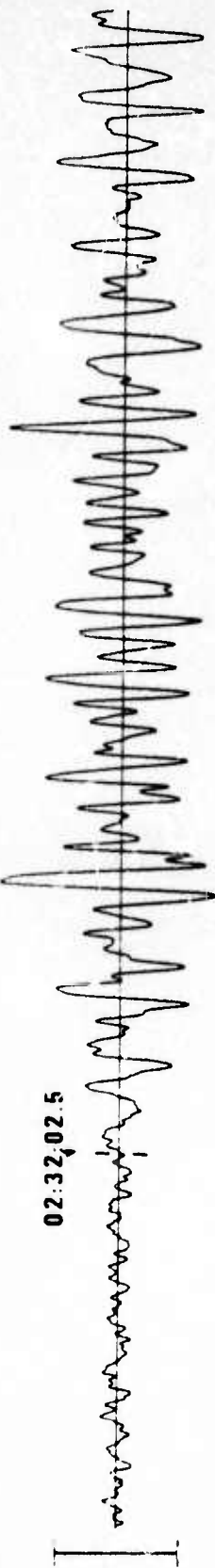


10 SEC

RK-ON 14 JUN 75

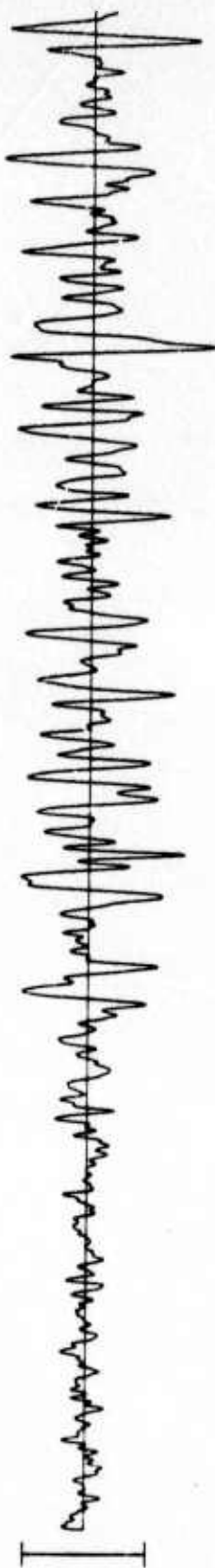
SPZ  
22.44 Mμ

02:32:02.5

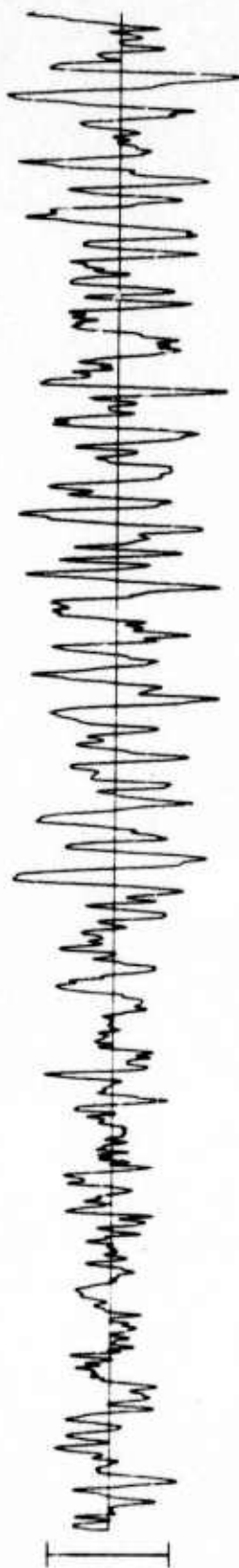


SPR  
14.19 Mμ

∞



SPT  
6.69 Mμ



TIME



10 SEC

02:32:30

WH2YK 14 JUN 75

02:33:48.9

SPZ  
5.43 Mμ



SPR  
5.09 Mμ



9

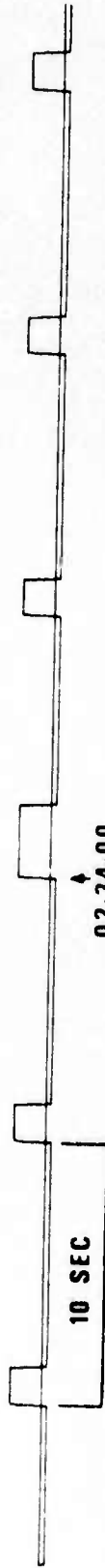
SPT  
7.08 Mμ



TIME

10 SEC

02:34:00

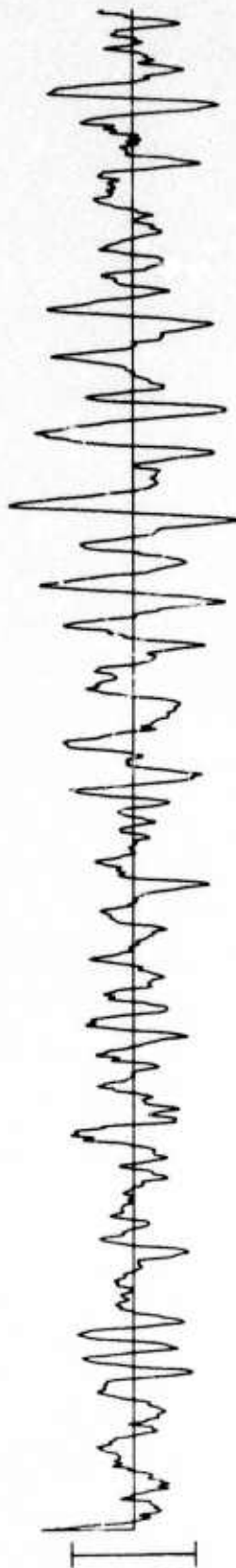


HN-ME 14 JUN 75

SPZ  
26.46 Mμ

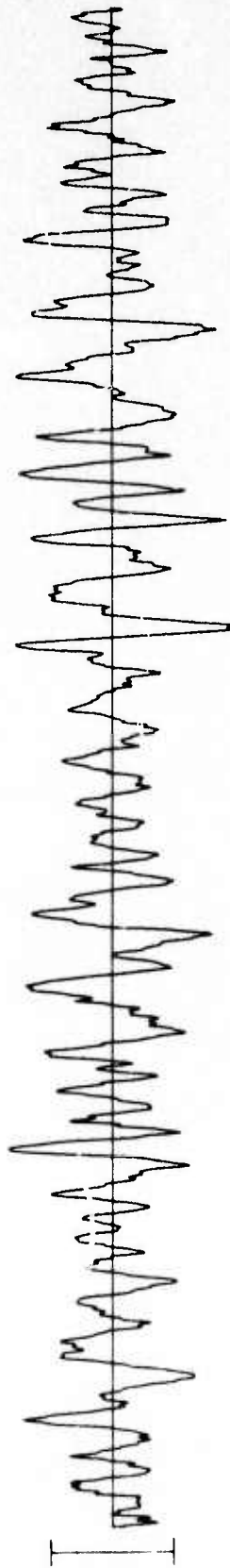


SPR  
14.97 Mμ



10

SPT  
13.12 Mμ



TIME



# LASA

1 14 JUN 1975

2 2 25 52 22.0N 108.2W 33C C 5.1 51 OFF COAST OF CENT. MEXICO

3 2 31 7.6 LAO P 74.3 1.2 11.8 24.6 184.4

ERX 50335

BP-B 0.6-2.0 HZ

ABN 10

2:30:57.6

AB 130

EAB 110

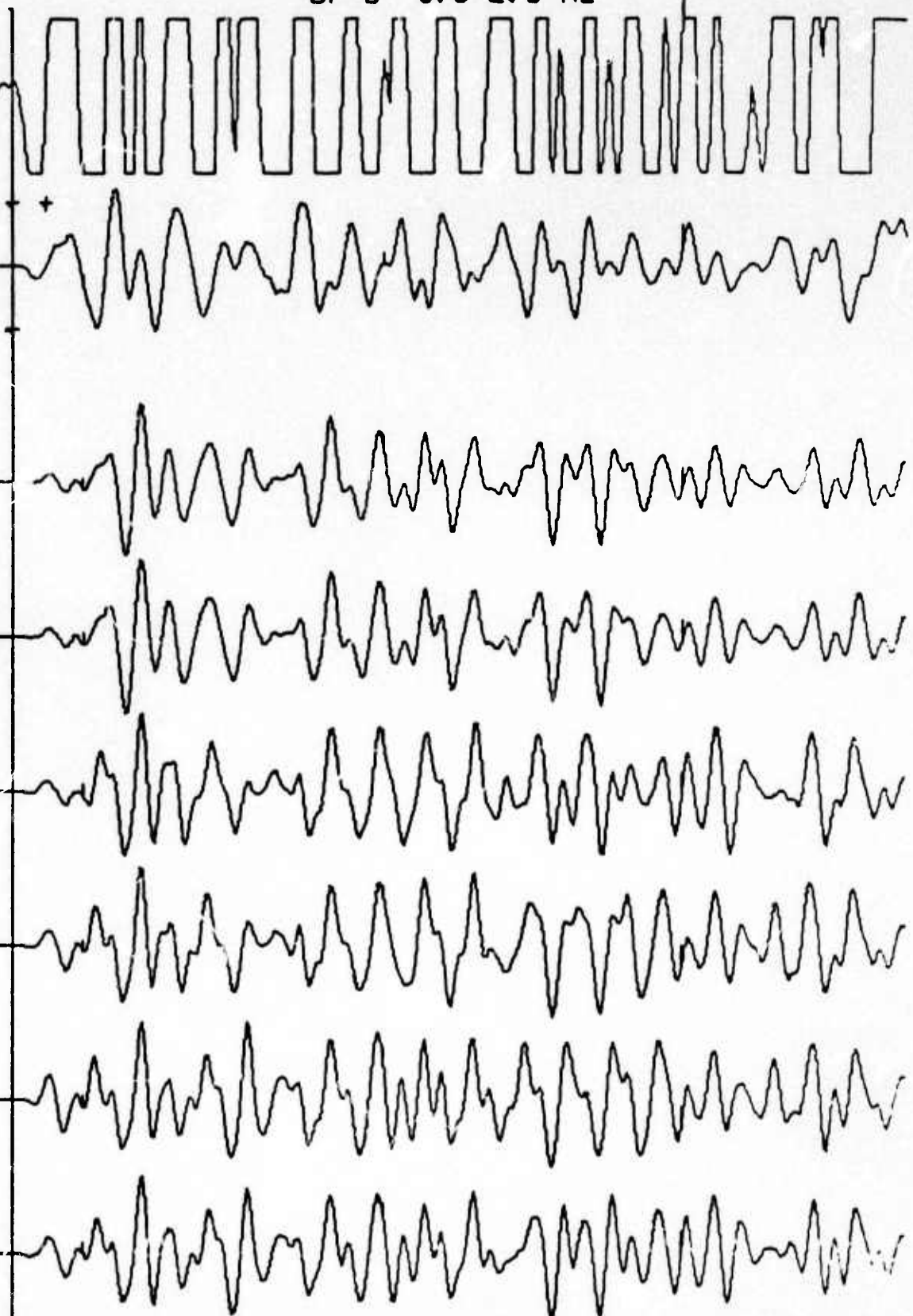
WAB 110

PAB1 49

RAB2 49

RAB3 55

RAB4 60



10 SEC

11



# NORSAR EVENT FILE

1975 JUN 14

EPX NO. 36490 ARR. 2.38.28.0 24.3N 108.5W 4.6MB 33KM

DIST = 82.1 AZI = 306.6 AMP = 9.9 PER = 1.5

— = 5 SECONDS

AB

ARRIVAL TIME

SAB  
1A

SAB  
3C

SAB  
7C

SAB  
13C



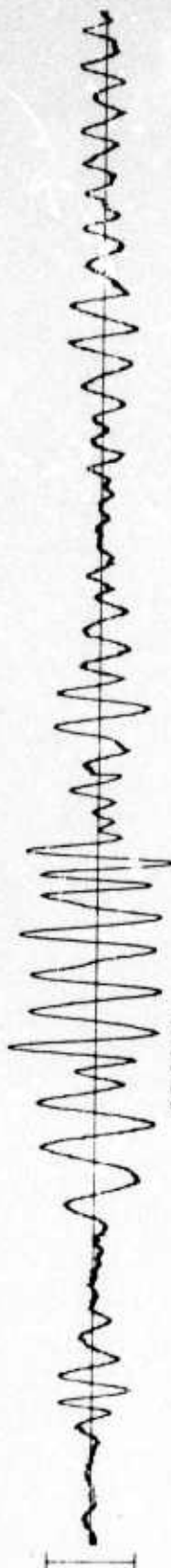
CPSO 14 JUN 75

02:40:35

LPZ  
1940.24 MHz

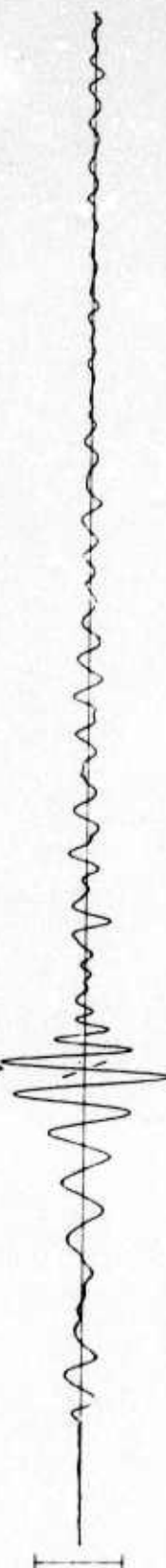


LPR  
1423.50 MHz



02:39:10

LPT  
4663.48 MHz

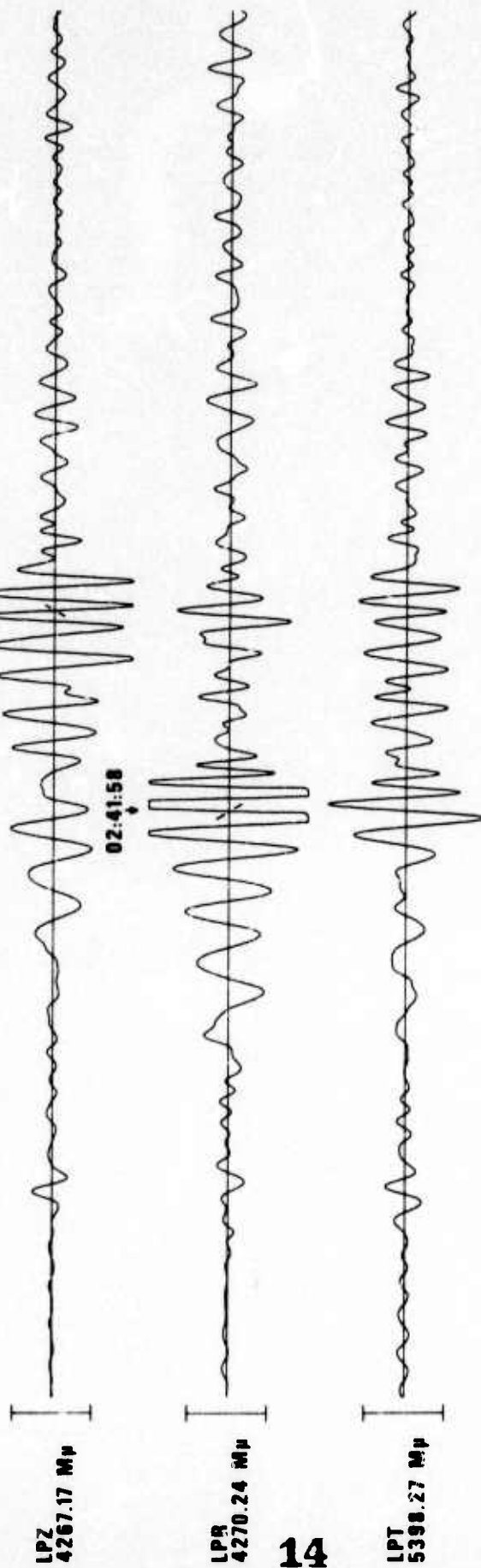


13

TIME



FN-WV 14 JUN 75



RK-ON 14 JUN 75

LPZ  
4247.19 Mμ

02:44:30

LPR  
3517.92 Mμ

02:42:20

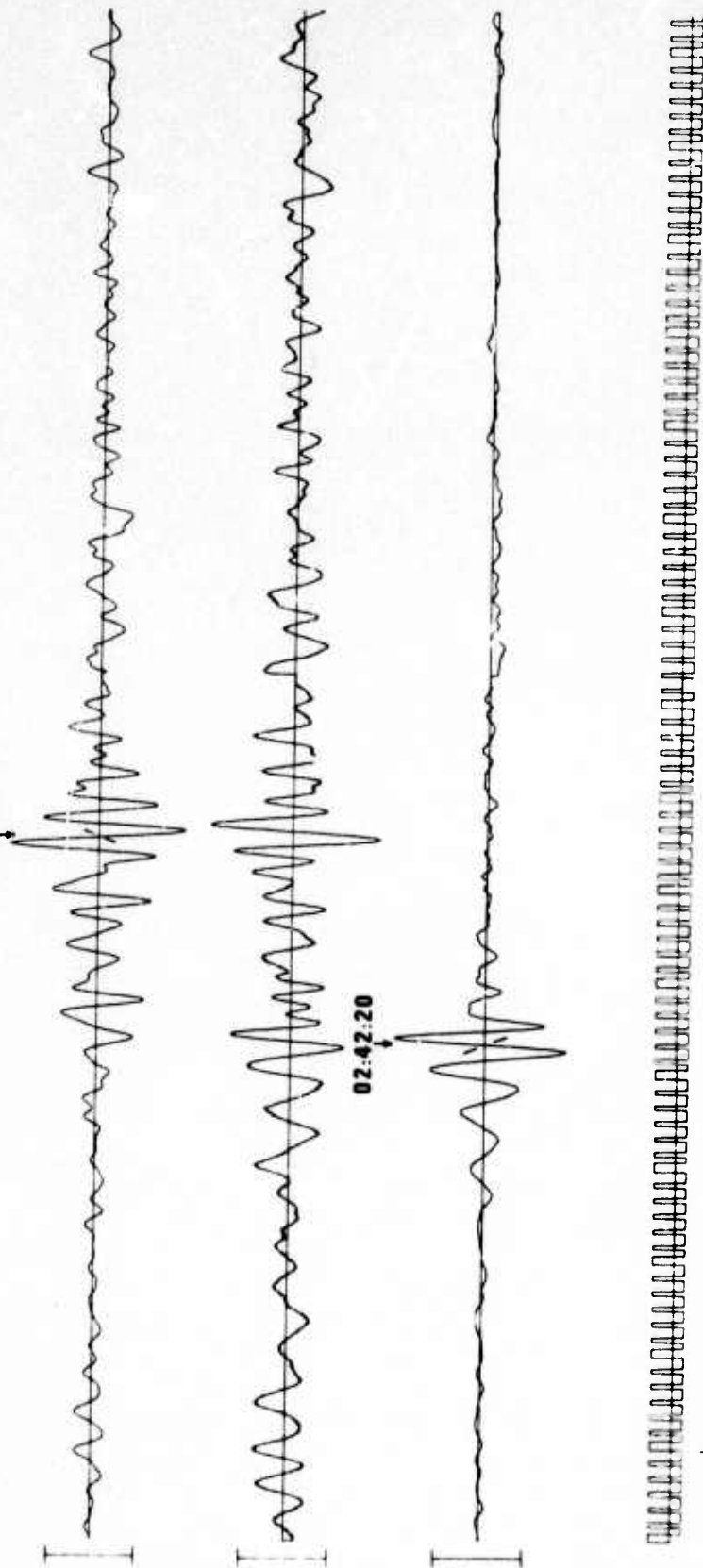
15

LPT  
16300.26 Mμ

TIME

2 MIN

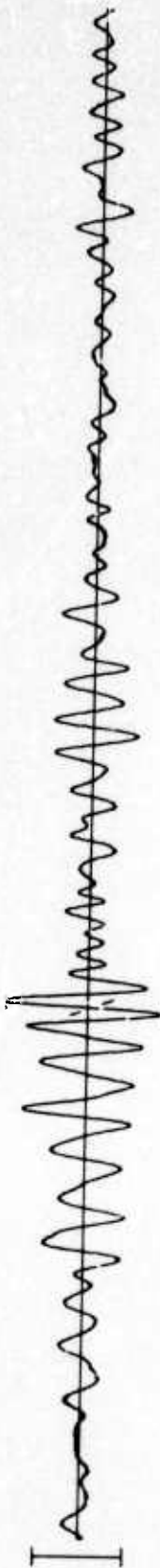
02:45:00



HN-ME 14 JUN 75

02:50:24

LPZ  
5574.01 MHz



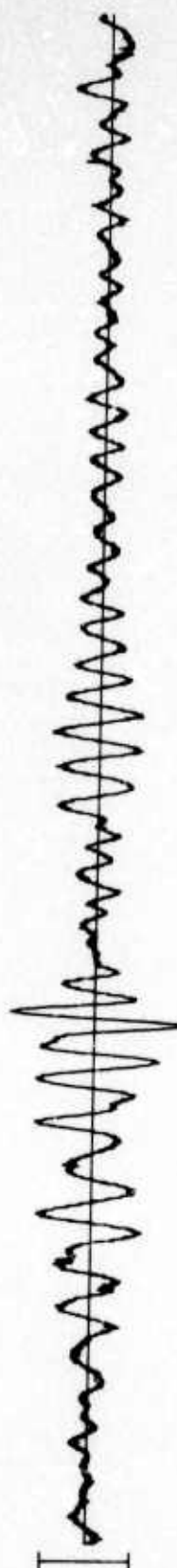
02:47:23

LPR  
6706.01 MHz



16

LPT  
2311.50 MHz



TIME



WH2YK 14 JUN 75



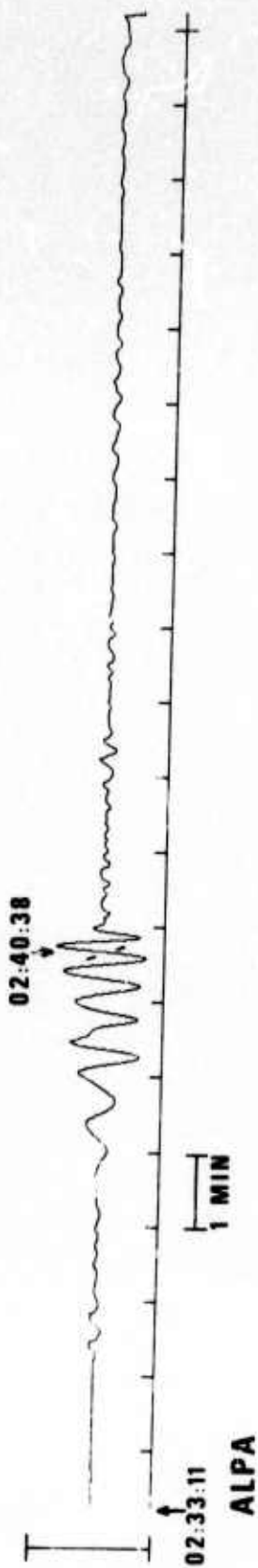
12



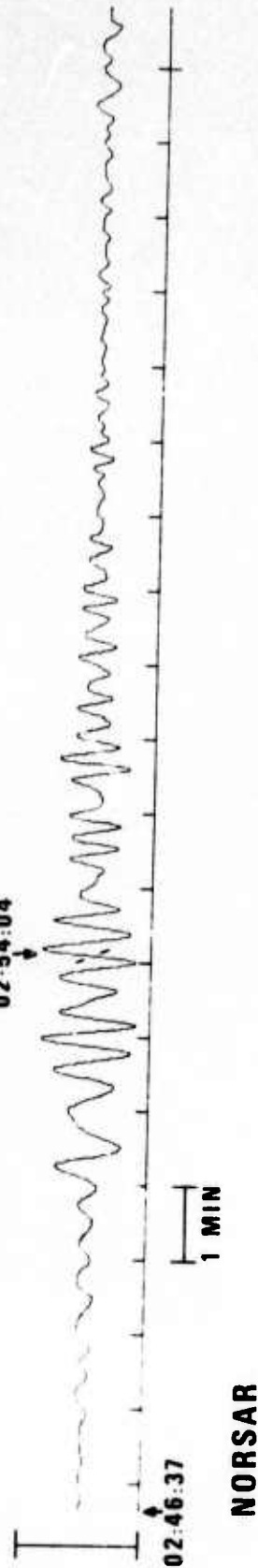
# ARRAY LONG PERIOD VERTICAL BEAMS 14 JUN 75

LASA

LP VERTICAL  
9181.68 Mμ



LP VERTICAL  
1596.52 Mμ



LP VERTICAL  
2703.85 Mμ

